



U.S. Space Industry 'Deep Dive' Assessment

Small Businesses in the U.S. Space Industry
Preliminary Findings from the Second Waypoint

Prepared by:

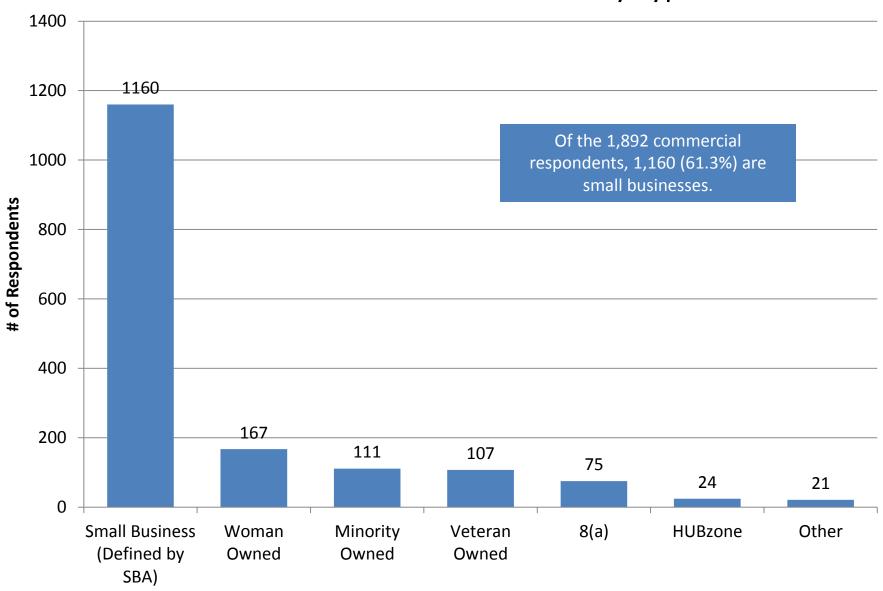
Matthew Sigmund
Trade and Industry Analyst
Department of Commerce
Bureau of Industry and Security

Small Businesses in the Space Industry

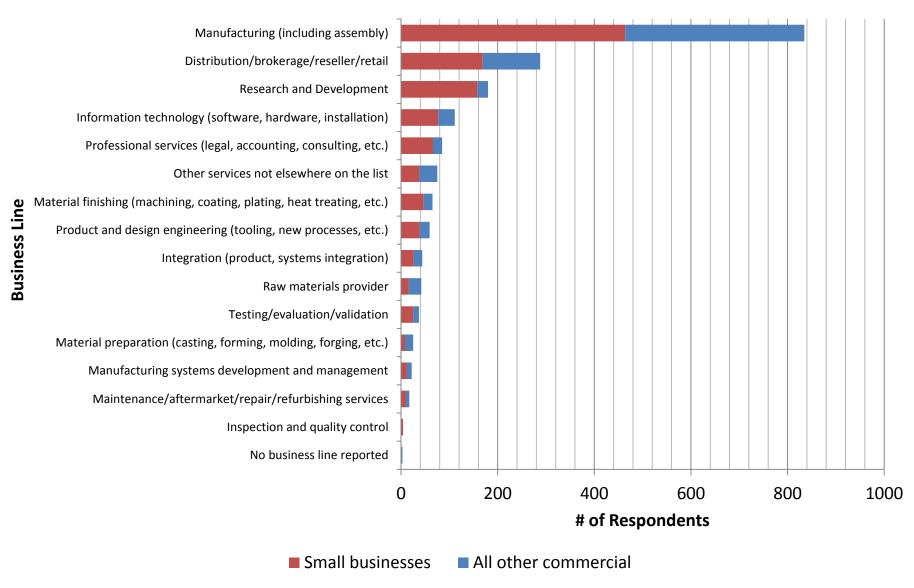
- Who are they?
- What do they do?
- Where are they located?
- Who do they support?
- How do they compare to the overall industry?

^{*}Respondents were asked to self-identify their small business designation and applicable NAICS code(s).

Self-Identified Small Businesses by Type



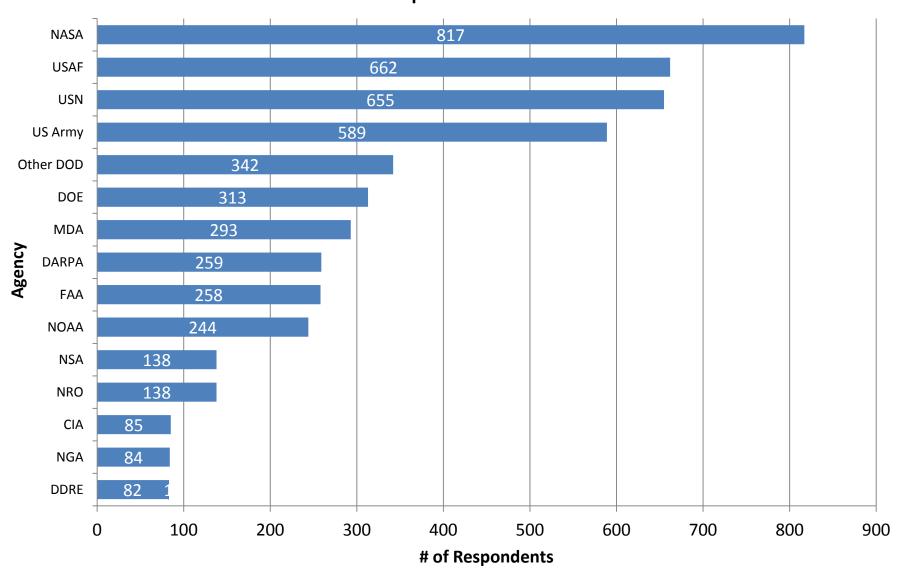
Primary Business Line of Commercial Respondents



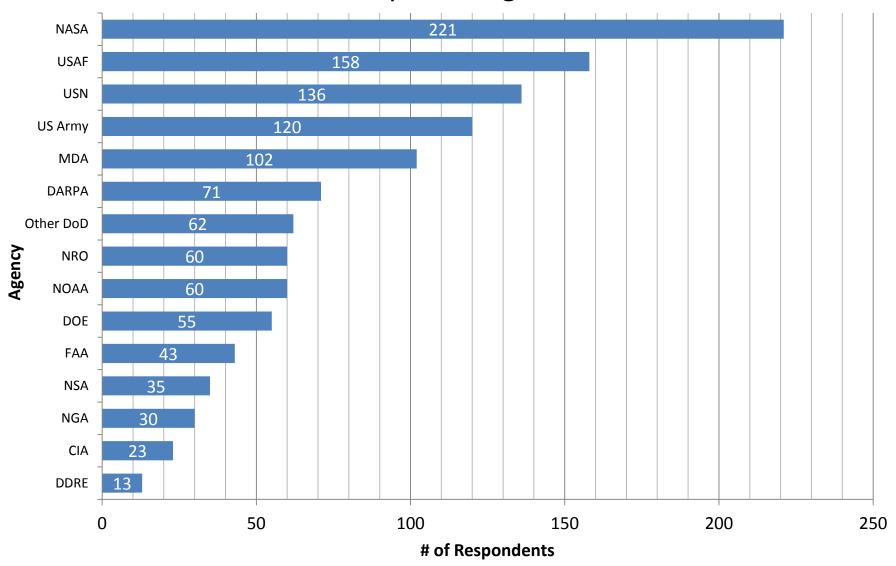
Small Business Respondents by State

State	# of Respondents	State	# of Respondents	State	# of Respondents
California	311	Utah	20	Missouri	5
Colorado	75	Alabama	16	lowa	4
Texas	54	North Carolina	15	Maine	4
Virginia	54	Nevada	13	South Carolina	4
New York	52	New Hampshire	13	Kentucky	3
Florida	51	Wisconsin	11	Montana	3
Pennsylvania	48	Georgia	10	Arkansas	3
Massachusetts	43	Oregon	10	Vermont	2
Ohio	42	Indiana	8	Wyoming	2
New Jersey	36	Kansas	8	District of Columbia	1
Arizona	33	New Mexico	8	Hawaii	1
Illinois	31	Idaho	7	Mississippi	1
Maryland	31	Delaware	6	Nebraska	1
Connecticut	29	Oklahoma	6	South Dakota	1
Washington	23	Tennessee	6	Nebraska	1
Minnesota	22	Louisiana	6	South Dakota	1
Michigan	21	Rhode Island	6	West Virginia	1

Agencies Supported: Small Business and All Other Respondents



Agencies Supported: Small Businesses Dependent on USG Space Programs



Respondents Supporting Only One Agency

	Total	Total Dependent on USG Space	Small Business	Small Business Dependent on USG Space
NASA	149	40	97	32
USAF	12	2	8	2
NRO	6	3	3	2

- 65% of respondents whose only government work was with NASA were small businesses.
- 33% of small business respondents whose only government work was with NASA were dependent on US government space programs for their continued viability.

Employment

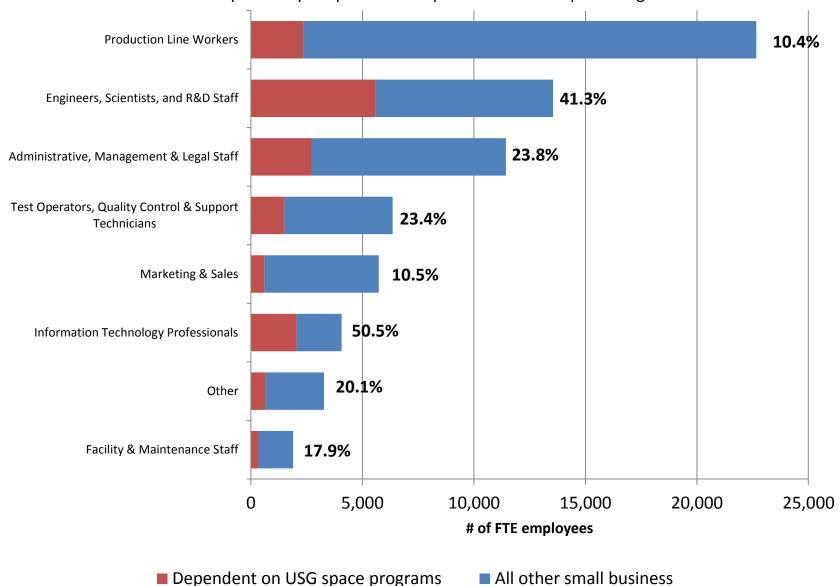
- Total employment:
 - Small businesses employed an average 69,290 FTE staff over the 2009-2012 period, approximately age 60 employees per respondent
 - 7.4% of reported commercial respondent employment.
 - 10.4% of the 11,869 vacancies in critical areas were reported by small businesses, greater than their share of total FTE employment.
- 4-year (2009-2012) employment growth:
 - Small business FTE employment grew 11.9%, adding 7,760 employees.
 - Overall FTE employment grew 8.6%, adding 81,090 employees.

Employment

- Average percentage of space-related FTEs:
 - All Respondents: 17.3%
 - Small Business Respondents: 19.3%
 - Small Business & Dependent on USG space-programs:
 56.7%
- Average percentage STEM-related FTEs:
 - All Respondents: 31.5%
 - Small Business Respondents: 35.7%
 - Small Business & Dependent on USG space-programs:
 54.0%

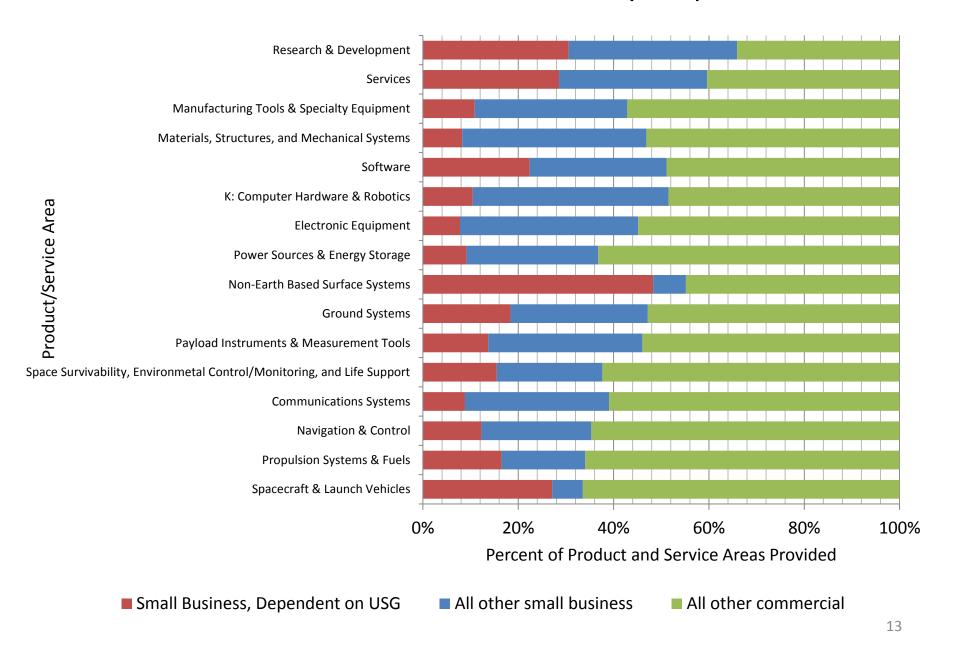
Employment: Small Business FTE Employment by Occupation

Percent Reported by Respondents Dependent on USG Space Programs

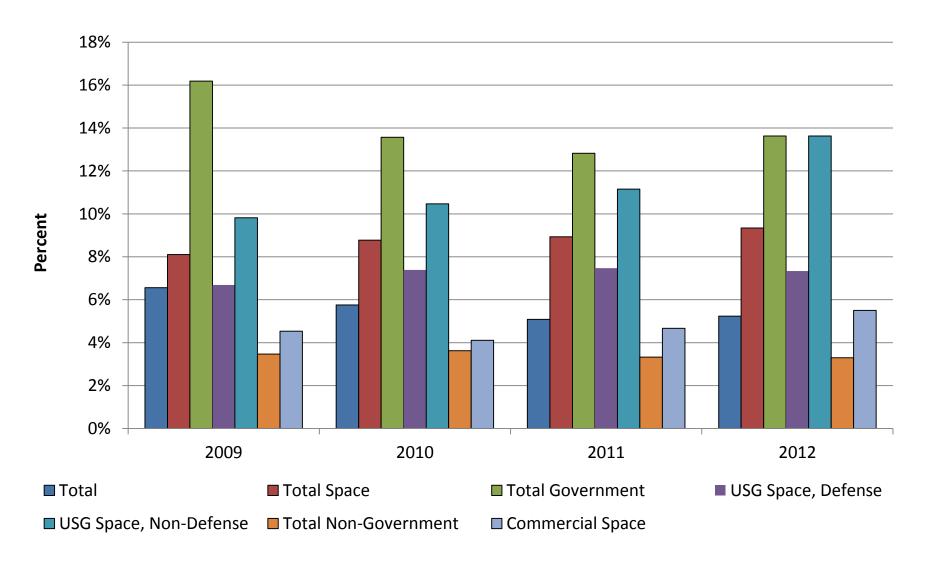


Occupation

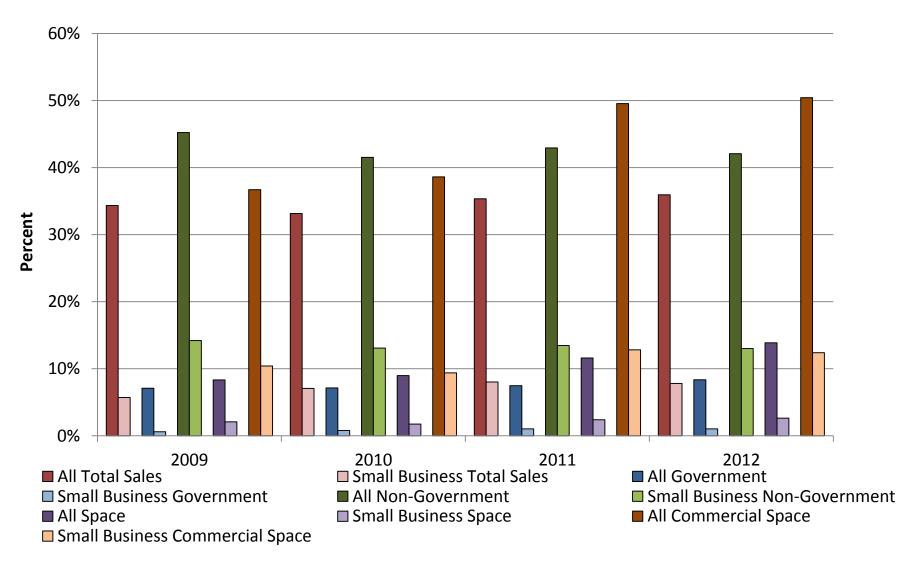
Product and Service Areas Provided by Respondents



Sales: Small Business Share of Commercial Sales 2009-2012



Sales: Percent of Sales to Non-U.S. Customers



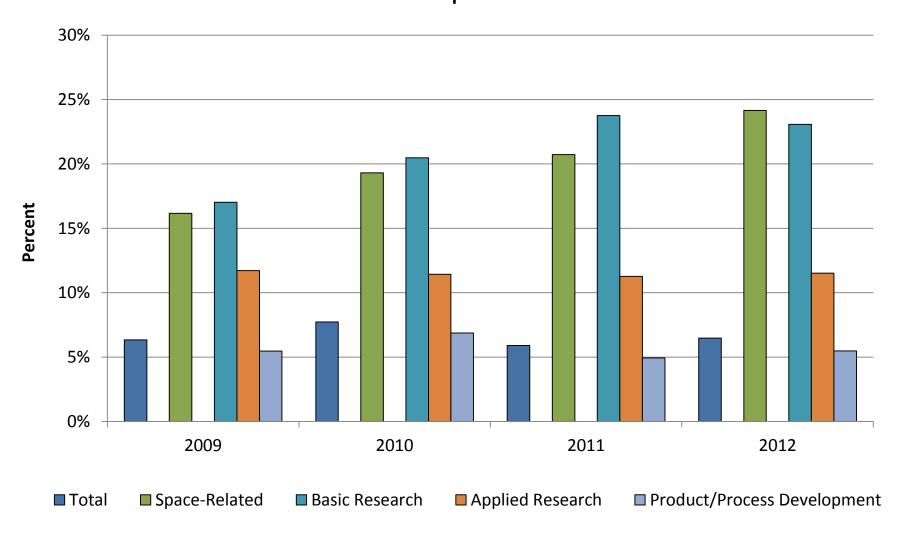
4-Year Sales Growth 2009-2012

	All Commercial Respondents	Small Business Commercial Respondents	Non-Small Business Commercial Respondents
Number of Respondents	1,892	1,160	732
Total	31.1%	4.5%	32.9%
Total Space	-0.3%	14.8%	-1.7%
Commercial Space	9.7%	33.1%	8.6%
USG Space	-6.9%	13.3%	-8.7%
USG Defense Space	4.4%	14.4%	3.7%
USG Non-Defense Space	-19.0%	12.5%	-22.4%

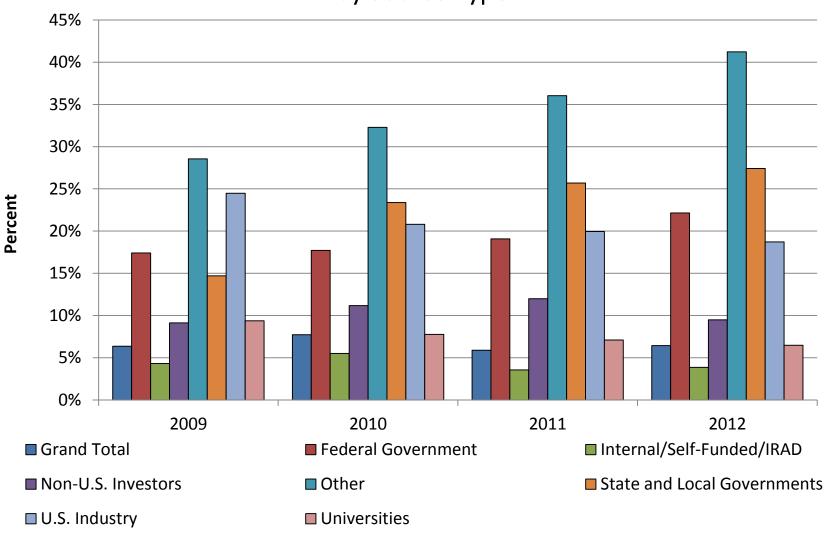
Sales

- Total reported sales of small business respondents grew more slowly than reported sales of all other commercial respondents.
 - Small business average annual growth: 1.5%
 - Non-small business average annual growth: 11.0%
- Small business respondents' space-related sales grew at an average annual rate of 4.9% in comparison to a decline of 0.6% for space—related sales of all other commercial respondents.
 - Small business respondents' commercial space sales grew at an average annual rate of 11.0% 2009-2012, significantly above the 2.9% rate reported by all other commercial respondents.
 - Small business USG space sales grew at an average annual rate of 4.4%, while all other commercial respondents' USG space sales declined at 2.9% annually 2009-2012.

R&D: Small Business Share of Commercial Respondent R&D Expenditures



R&D: Small Business Share of Commercial Respondent R&D Funding, by Source Type



R&D

R&D Expenditures Growth (Total 2009-2012)

R&D Expenditure Type	Commercial: All	Commercial: Small Business	Commercial: Not Small Business
Total R&D	21.7%	24.4%	21.6%
Basic Research	10.5%	49.9%	2.4%
Applied Research	18.1%	16.0%	18.3%
Product/Process Development	22.5%	22.9%	22.5%
Space-Related	7.0%	59.9%	-3.2%

- Small businesses drove growth in basic R&D and space-related R&D spending 2009-2012.
 - Small business basic R&D spending grew from \$242 million in 2009 to \$363 million in 2012.
 - Small business space-related R&D spending grew from \$450 million in 2009 to \$719 million in 2012.

Commercial Respondent R&D Spending as a Percentage of Sales



SBIR and STTR Awards 2009-2012

		Number of Awards			
Туре	Phase	All Respondents	Commercial Respondents	Small Business Commercial Respondents	
	Phase I	239	215	189	
	Phase II	187	169	148	
	Phase III	62	57	51	
	Number of Unique Respondents	250	225	196	
	Phase I	85	65	56	
	Phase II	63	52	45	
	Phase III	6	6	6	
	Number of Unique Respondents	195	184	161	

Summary

- **How many**: 1,160 of 1,892 commercial respondents, (61.3%) were small businesses.
- **Business lines**: The most commonly reported primary business lines of small business respondents were manufacturing; distribution, brokerage, reselling or retail; and research and development (40%, 15% and 14% of respondents, respectively).
- **Location**: California is host to the largest portion of small business respondents (311, 27%), followed by Colorado (75, 6%).
- **Agencies Supported**: Nearly 60% of respondents supporting NASA, 56% of respondents supporting the Air Force and 45.5% of respondents supporting the NRO were small businesses.
- **Employment**: Small businesses employed 7.4% of the total reported commercial workforce; however, 10.4% of vacancies for skilled positions were in small businesses.
- **Sales**: 5.6% of total sales and 8.8% of space-related sales 2009-2012 were reported by small businesses. Small businesses reported a greater share of U.S. government sales (14.0%) and U.S. government non-defense, space-related sales (11.2%); however, they are significantly underrepresented in reported export sales.
- **R&D**: 6.6% of total R&D expenditures and 20.2% of space-related R&D expenditures were reported by small businesses. Small businesses are significantly more reliant on government funding than all other commercial respondents for their R&D activities.
 - 9.8% of all commercial R&D activities were funded by the Federal Government, 28.7% of small business R&D activities were funded by the Federal Government.
 - Small businesses reported 80% of all SBIR and 70% of all STTR awards reported for the 2009-2012 period.